

Claims

1. An arrangement (01) for inspecting material (08), having a sensor device (02) and an illumination device, wherein the inspection light (10, 11, 12) emitted by the illumination device from the light sources (03, 04, 06) is recorded by the sensor device (02) following its reflection at and/or falling through the material (08) and is evaluated in an evaluation device, characterized in that the illumination device has at least two light sources (03, 04, 06), each of which emits inspection light (10, 11, 12) of differently colored light, wherein the sensor device (02) has at least two color channels matched to the different inspection light (10, 11, 12) from the light sources (03, 04, 06).

2. The arrangement in accordance with claim 1, characterized in that, following its reflection and/or falling through the material (08), the inspection light (10, 11, 12) emitted by the respective light source (03, 04, 06) is recorded together by the sensor device (02), and the different color channels are separately evaluated in the evaluation device.

3. The arrangement in accordance with claim 1, characterized in that the light sources (03, 04, 06) emit inspection light (10, 11, 12) of a substantially monochrome light color.

4. The arrangement in accordance with claim 1 or 3, characterized in that the spectral position and/or the bandwidth of the inspection light (10, 11, 12) emitted by the light sources (03, 04, 06) is matched to the transmission curve of the sensor device (02).

5. The arrangement in accordance with claim 1, characterized in that the sensor device (02) is designed in the manner of a color line camera.

6. The arrangement in accordance with claim 1, characterized in that the sensor device (02) is designed in the manner of a CCD camera.

7. The arrangement in accordance with claim 1, characterized in that the sensor device (02) has three color channels, wherein three light sources (03, 04, 06) are provided in the illumination device, whose respective inspection light (10, 11, 12) is matched to the properties of the three color channels.

8. The arrangement in accordance with claim 1, characterized in that the light sources (03, 04, 06) are arranged at different positions relative to the material (08).

9. The arrangement in accordance with claim 8, characterized in that the light sources (03, 04, 06) are displaceably seated.

10. The arrangement in accordance with claim 1, characterized in that at least one light source (06) is arranged in such a way that the respective inspection light (12) falls through the material (08), and at least one light source (03, 04) is arranged in such a way that the respective inspection light (10, 11) is reflected by the material (08).

11. The arrangement in accordance with one of claims 1, characterized in that at least one light source (03) is arranged in such a way that the respective inspection light (10) is reflected by the material (08) at a first angle, and at least one light source (04) is arranged in such a way that the respective inspection light (11) is reflected at a second angle by the material (08).

12. A method for inspecting material, having a sensor device (02) and an illumination device, wherein the inspection light (10, 11, 12) emitted by the illumination device from light sources (03, 04, 06) is recorded by the sensor device (02) following its reflection at and/or falling through the material (08) and is evaluated in an evaluation device, wherein the illumination device has at least three light sources (03, 04, 06), each of which emits inspection light (10, 11, 12) of differently colored light, wherein the sensor device (02) has at least three color channels matched to the different inspection light (10, 11, 12) from the light sources (03, 04, 06), so that, following reflection at and/or shining through the material (08), the inspection light (10, 11, 12) emitted by the respective light sources (03, 04, 06) is recorded together by the sensor device (02), and the

different color channels are separately evaluated in the evaluation unit, characterized in that the three light sources (03, 04, 06) simultaneously emit inspection light (10, 11, 12) in the different light colors to only one sensor device (02), that the inspection light (10) from the first light source (03) and the inspection light (11) from the second light source (04) are reflected at the sheet-like material (08), and that the inspection light (12) from the third light source (06) falls through the sheet-like material (08), so that, simultaneously with the two incident light inspections, a transmitted light inspection is performed separately thereof.

13. The arrangement in accordance with claim 1 or the method in accordance with claim 12, characterized in that the material (08) is embodied as a printed product containing image information.